

VIRGINIA WILDLIFE

2014



VIRGINIA WILDLIFE

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Color separations by Lanman Dominion,
Richmond

Printing by Western Publishing, Cambridge,
Maryland

Virginia Wildlife (ISSN 0042 6792) is published
monthly by the Education Division of the Virginia
Commission of Game and Inland Fisheries, Box
11104, 4010 West Broad Street, Richmond, Virgi-
nia 23230-1104. Second class postage paid at
Richmond, Virginia and additional mailing offices.

Subscription department: 804/257-1449. Rates:
one year, \$5.00; three years, \$12.50.

Submission guidelines available upon request.
The Commission accepts no responsibility for
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Permission to reprint material from *Virginia
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or photographer as well as the managing editor
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Observations, conclusions and opinions expressed
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Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources

Volume 45, Number 12

December 1984

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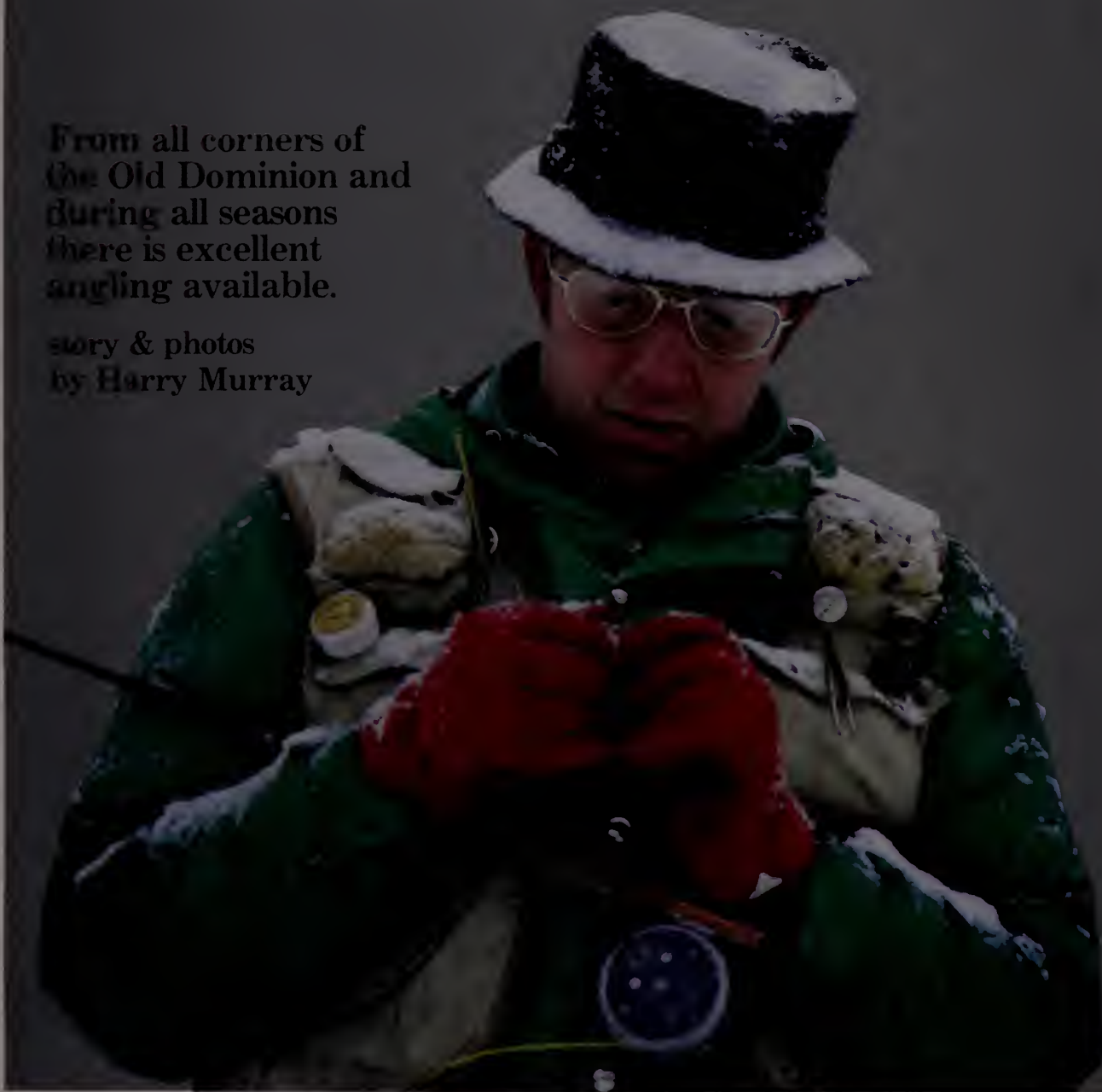
Grey Fox: photo by Steve Maslowski. Read about Virginia's fox hunting tradition on page 16.

The back cover: photo by Ken Lewis

It's *Always* Fishing Season

From all corners of
the Old Dominion and
during all seasons
there is excellent
angling available.

story & photos
by Harry Murray



“Fishing is a chance to wash one's soul with pure air, with the rush of the brook, or with the shimmer of the sun on the blue water.” These were Herbert Hoover's feelings as expressed in the foreword of his wonderful little book, *Fishing For Fun and to Wash Your Soul*. I do not know if he was thinking of his trout fishing camp high in Virginia's Blue Ridge Mountains when he wrote this, but I'm sure it was at least part of the motivation for this statement.

From all corners of the Old Dominion and during all seasons there is excellent angling available. The effort required to capitalize upon this valuable resource is more than offset by the rewards provided.

There are various motivations which bring the angler out during the different seasons, and one's tactics and tackle must be adjusted to suit the job at hand.

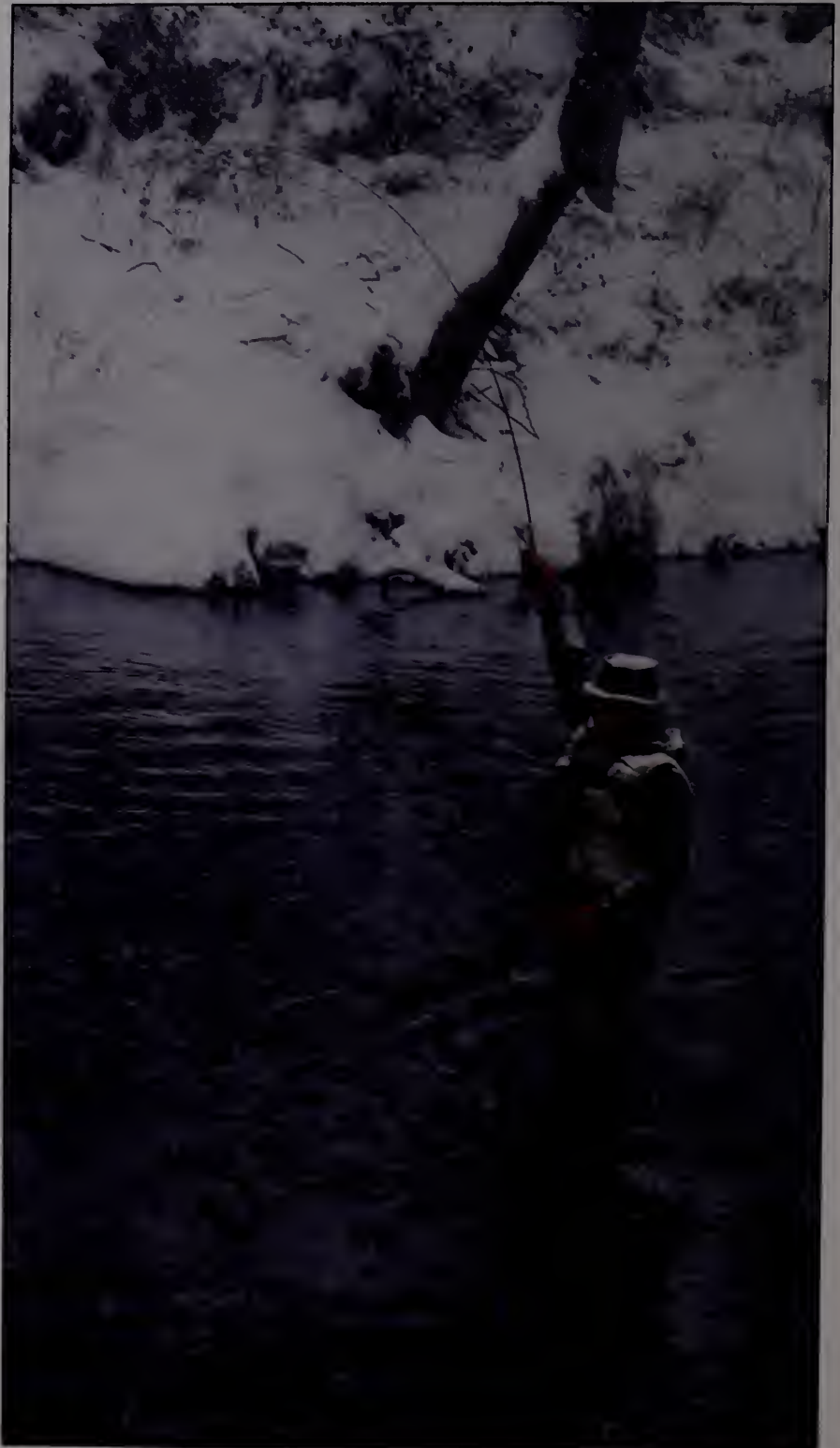
During the winter months, I often grab my fishing tackle and head to the stream simply to ward off a bad case of cabin fever. Even a good football game loses a little of its thrill when it is the fourth one I've watched on TV over the weekend. Then, there is always that nagging memory of the large brown trout which lives under a specific log jam on my favorite stream. Though I moved him several times last summer and had him chase a streamer halfway across the stream last fall, I never did land him. Maybe now that he's half asleep in the cold stream, he may be more forgiving of my errors and fall for a well-presented nymph.

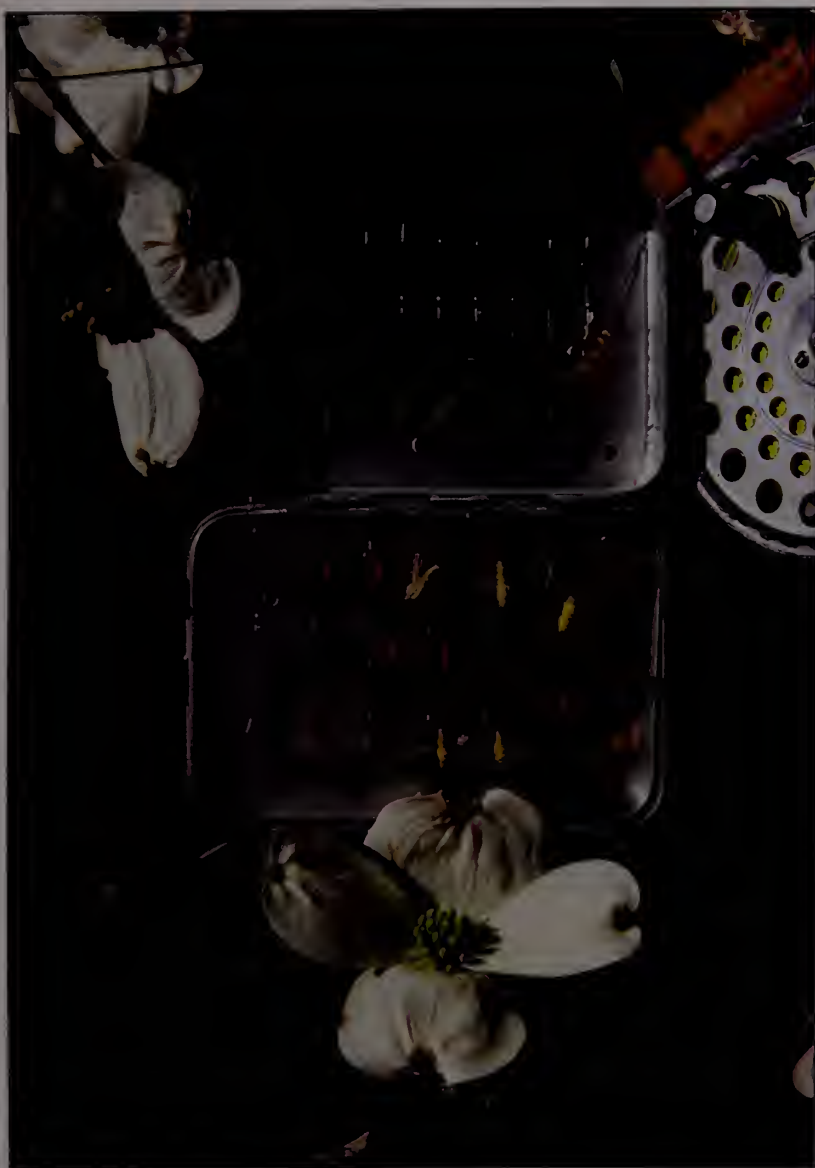
Winter trout fishing can be quite successful. It is basically a game in which we must slow down all aspects of presentation and read the water with utmost accuracy. It is wise to try to determine the trout's exact location in the stream even before making an approach. Once this anticipated hot spot is selected, we must decide exactly where to cast the lure or fly in order to get the right drift to the trout. Only after making these evaluations can we make the proper choice of where to enter the stream, and the angle at which we must make a presentation.

This may sound involved, but in cold winter water trout simply will not move very far to take their food, so we must get it to them.

Nymphs and streamers are usually the most successful patterns during the winter, and a slow natural action will often bring out a good fish which

Carefully water reading
and a slow presentation can
spell success in winter trout fishing.





Dogwood blooms bring thoughts of rising trout and battling smallmouths.

would have totally neglected a fast-moving fly.

The same tackle one uses throughout the rest of the season will work well in the winter if a few minor refinements are made. I find I get much better results if I use stronger leaders at this time of the year. Numb fingers, stiff lines, big flies, and the hoped-for large trout do not work well on the cobweb-size leaders we often use during other seasons.

As spring approaches, the thought of trout rising to thick hatches of mayflies and strong smallmouth bass putting up determined fights in the heavy currents is enough to excite any fisherman.

The peaking of the redbud and the opening of the dogwood seem to act as signals for these responses from two of our most highly respected fish.

After a long winter of inactivity, trout are ready to take advantage of

the abundance of food now being put before them. Though many anglers enjoy playing the "match-the-hatch game" with Dry Quill Gordons (*Epeorus pleuralis*) and March Browns (*Stenonema vicarium*), it really is not necessary. The trout are ready and willing to feed on almost any well presented fly as long as we don't spook them. Yes, even in the full streams of spring it is quite possible to scare the trout with your approach or cast. As high as our streams were last spring, I spooked the same fish on three consecutive trips to a favorite stream, and only after being willing to crawl cautiously into casting position on my fourth trip was I able to take him.

In the small headwater streams, drys such as Coachman Trude, Dark Goofus, and Mr. Rapidan, all in sizes 12 and 14, are excellent spring flies due to their good flotation in the high waters. Nymphs such as the Hare's Ear, March Brown, and Mr. Rapidan Emerger in sizes 10, 12, 14 are hard to beat.

In Virginia's larger streams in the valley floor such as Big Stoney Creek, the Jackson, and Bullpasture rivers, streamers which imitate much of the minnow life are good choices.

These large streams are ideally suited to spinfishing. Searching out the fast runs and deep riffles with 1/16-ounce rooster tail spinners or small red and white daredevils usually produces excellent results. Often angling a cast upstream and retrieving it just slightly faster than the current will bring many good trout out of a run which the standard down and across retrieve failed to move.

Smallmouth bass may be at their very best in the spring. These hard fighters really know how to make the best use of the strong currents in full rivers at this time of year. Even an average-size smallmouth can put up a very strong fight by getting downstream of the angler and letting the force of the current work in his favor. This exciting battle is also enhanced by the acrobatic leaps of the bass as he jumps from the stream. It is not unusual to have a bass clear the steam three or four times in these cool waters. Their strength and stamina seem to be endless. Upon returning any size bass to the stream, I have never seen one too weak to swim strongly for cover. I cannot say this about trout. Both browns and rainbow will often require some reviving before they are strong enough to recover from being landed.

Several tactics are successful for



Low water and “spooky” conditions face the summer trout angler.

spring smallmouth. Serious fly fishermen like large streamers such as a James Wood Bucktail or Ed Shenks White Streamer in size 4 and 6. A 9-foot graphite rod which handles a weight forward 8 bass bug taper fly line is ideal for this fishing. Floating lines will usually cover your needs unless the water is unusually high for which the new, fast-sinking tip lines are a great help.

Spin fishing is very productive for spring smallmouth. Plugs such as a Rapala size 7 and 9 in gold and silver finish and jointed rebels of 1/8-ounce and 1/4-ounce are outstanding. Spinner baits such as the 1/16-ounce black teeny spin also bring excellent results.

The upper reaches of Virginia's large bass rivers and the small feeder rivers are often more productive during the spring than any other season. These areas are easier for the angler to navigate than the larger downstream portions due to a more com-

fortable water volume, but they still hold enough water to prevent us from scaring the bass.

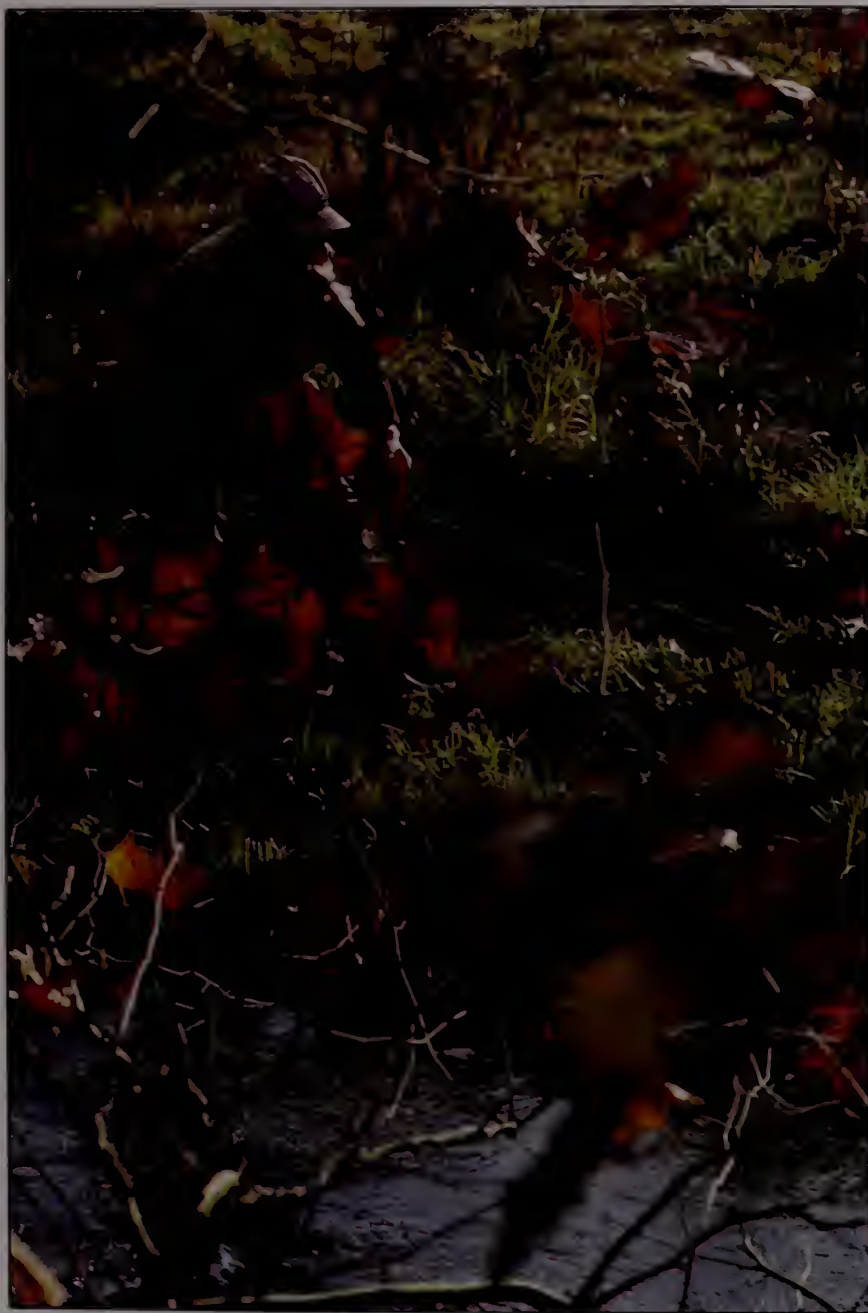
As spring warms into summer, the compulsion of many anglers to “get in there with them” can readily be accomplished. I can think of no more pleasant way to cool off on a hot summer day than heading for one of the numerous panfish streams and wading wet for them. It makes little difference whether we are catching rock bass, sunfish, fallfish, or an occasional smallmouth, this is just a lot of fun. It is an ideal time to take youngsters out and let them enjoy this magnificent sport. I may have occasionally looked down my nose at the fallfish, but when it happened to be the first fish my 5-year-old daughter caught on her own, this silver-sided speedster increased in stature.

Spin casting tackle with small plugs or spinners is ideally suited to the young angler. Keep the lines light so the youngsters don't get discour-

aged by the lack of distance they may find in the 10- and 15-pound test mono. More advanced anglers may choose from a variety of spinning and fly tackle. Be sure to match the line sizes to the lures and flies being used.

Summer trout fishing means different things to different people. Many of our large streams get very warm, and this accounts for the lack of a good carry-over population. Try to locate incoming springs and cautiously cover the areas immediately downstream. The headwater streams do not get as warm as the larger streams, but the low water levels almost demand that we approach each pool and run on our hands and knees.

The best summer trout fishing will usually be found in the tailwater fisheries below large dams with cold water releases and on spring creeks. This is grasshopper time, and as a friend said, “That's a lot of groceries.” I have seen large brown trout strike



Weather plays a big part in fall fishing and anglers have to adjust to high or low water.

so viciously at floating grasshoppers that they would splash water for 8 to 10 feet. Several times I have been so hypnotized by this action that I almost forgot to fish for them. . .almost.

Trout tackle for summer fishing normally is lighter and more delicate than what you've used earlier in the year. This is due in part to the low water and spooky conditions, but with the exception of a few insects, most of the natural trout food is now quite small. Many of our best catches are made on size 18, 20, and 22 flies on 6x leaders.

The arrival of fall, the brisk clean air and the beauty of the foliage are reasons enough to attract an angler to the stream. The increased feeding activity in almost all fish at this time of the year is a much appreciated fringe benefit.

Brown and brook trout are fall spawners and this has a direct affect upon their food needs. After spawning, many of them will again go on a heavy feeding spree to get ready for winter.

Fall trout fishing tactics depend almost completely upon whether we get heavy autumn rains. Most of us stay with dries, but if the streams are low, it is the same light leader and small fly game we played during the summer. If the rains have filled the streams, large dries such as crickets and nymphs like the Giant Stone will be the answer.

The bass fisherman in search of that big one who evaded him all summer is now out trying to get even. In many cases, he is successful.

I find that I normally pick up more large bass in October than in any other month. Early fall leaves the door open for a variety of tactics; many prefer surface or shallow-running plugs and deer hair or cork poppers. As water temperatures drop to the lowest comfort range for bass, I get much better results by using lures and flies I can fish close to the bottom.

For the fly fisherman, a sink tip line can really add to the late fall catch. Many of the best smallmouth concentrate in deep river pools and pockets. Carefully searching these spots with large weighted streamers can produce some very impressive catches.

So, whatever the season, from the fabled fine spring day to a winter morning when the ice freezes to the guides on your rod, there's fishing to be had for the angler who knows his sport. □

"Bobcats do not leave a lot of conspicuous sign. Sometimes their tracks can be found in soft earth or sand along logging roads and field edges."



comes from road kills or deer crippled by hunters. Bobcats will steal an occasional pig, turkey or chicken from a farmer if the opportunity presents itself. In the West, they prey heavily on sheep at times.

Bobcats mate from late February through March. Males often breed several females. An average litter of three kittens are born 62 to 63 days after mating. Although the young usually leave the mother by late October, I have on occasions observed young adults that have remained with their mother until breeding season commenced in February. The yearling males seek territories of their own or will be driven out by the older, adult males.

Unlike their western cousins, Virginia bobcats have no natural enemies such as wolves, coyotes or lions. (This may change with the influx of coyotes in the eastern portion of the state.) Dogs may account for the death of a very small percentage of young cats, but an adult bobcat can either stand off a pack of dogs or escape to safety. One-on-one, few dogs are a match for a full grown bobcat. Man is the major predator that the secretive cats have to contend with. They will not attack humans unless rabid, or by mistake.

Bobcats are easily trapped. It is an accepted fact among trappers and wildlife management personnel that the majority of the bobcats harvested are accidentally caught by fox and raccoon trappers. More cats are taken accidentally by hunters seeking other species than by bobcat hunters. Deer hunters and coon hunters probably account for the majority of the cats that are shot. The value of bobcat furs reached a high several years ago (late 70's to early 80's) with pelts fetching a \$100 bill. They have since dropped to half that price.

Bobcats do not leave a lot of conspicuous "sign." Sometimes their tracks



Like most cats, the bobcat does well in a tree.



The bobcat's cold weather pelt is prized by trappers.

Bobcat kittens are usually born in May and June.



can be found in soft earth or sand along logging roads and field edges. Adult tracks are roughly the size of those of a medium-sized dog. Cat tracks can be distinguished from a dog's or those of a fox by the lack of nail or claw marks due to the bobcat's retractable claws. The cat's zig-zagging trail can be best followed after a good tracking snow blankets the landscape. Bobcat feces can sometimes be found and will nearly always consist mostly of rabbit fur. Dens are rarely found. Bobcats prefer to den in rocky caves or holes for maximum protection. The strong odor of cat urine is generally present around an active den.

I am grateful that the bobcat continues to roam the hills and swamps of the Old Dominion. With controlled harvesting and proper management, these shy, exciting furbearers will continue to stalk silently through Virginia nights. □

Harvest Records of Virginia Bobcats (Number Tagged by Game Wardens)

1977-78 - 201
1978-79 - 321
1979-80 - 389
1980-81 - 394
1981-82 - 313
1982-83 - 479
1983-84 - 313

*Average take per year (7 year average) 344 statewide

*An average of 11 bobcat per year were taken east of the Blue Ridge.

An average of 232 Bobcat per year were taken West of the Blue Ridge.

*Bedford, Rockbridge, Wise, Augusta, Westmoreland, and Tazewell counties consistently produce the highest number of cats.

Don't let the sign fool you. The Paint Bank "National" Fish Hatchery is actually the responsibility of the Virginia Commission of Game and Inland Fisheries. The U.S. Fish and Wildlife Service relinquished control of the Wytheville and Paint Bank hatcheries on July 1, 1983.

The hatcheries previously had supplied trout to lakes and streams in West Virginia as well as Virginia, but they now produce only slightly fewer fish. "Poundage-wise," Paint Bank hatchery manager Charlie Stephens said, "the figure has increased because our fish are slightly larger than what the federal government was allowed to produce." Under the state's control, fish over nine inches in length are released whereas the federal hatchery released 8- to 9-inch fish.

The Department of the Interior built the Paint Bank hatchery in 1958 to produce trout for streams and lakes in the George Washington and Jefferson National Forests. It is now responsible for supplying about 200,000 trout each year to fishing areas in Alleghany, Bedford, Botetourt, Craig, Franklin, Giles, Henry, Montgomery and Roanoke counties. "From July 1, 1983 to June 30, 1984," Stephens said, "the hatchery stocked 242,000 catchable-size fish (that doesn't include fingerlings)." The Paint Bank hatchery is also capable of hatching all the brook and brown trout eggs for the other four Virginia hatcheries. Together, the five Virginia hatcheries provide about one million fish annually.

The Game Commission assumed responsibility for operation of the Paint Bank and Wytheville hatcheries and for stocking streams on national forest lands when the federal government announced that such stocking was suddenly a state responsibility and that both hatcheries would be closed. The hatcheries and equipment were made available to the Commission by long term lease.

Stephens moved from Marion to Paint Bank in April 1983. Two employees from the Coursey Springs hatchery in Bath County also came to work there at that time. The hatchery now has five employees.

"The greatest thing about working here," Stephens said, "is being outdoors." He oversees the trout production and is responsible for the hatchery and the 500-acre property. "This can be basically a 24-hour-a-day job, and sometimes seven days a

week." Even when he's not officially on the job, he is often not far away. "I live about 200 yards away—right across the highway."

Stephens said they begin taking eggs from the brood fish of one strain in mid-July. Then, from September through November, they take eggs from the brood fish of the brook and brown trout. All total, they take about 1.4 million eggs each year.

According to Stephens, it takes about 16 to 18 months for an egg to grow into a stockable-size trout.

After fertilization, the eggs are incubated for 30 to 45 days. When "eyes" appear on the eggs, the eggs are taken out and counted, and the bad ones are removed. When first hatched, the fish are called sac fry because they live off their yolk sacs for 12 to 14 days. After the yolk sack is absorbed, the fish, then known as fry, come to the surface seeking dry food. The fry become fingerlings when they are two inches long.

The fish are first released in the

upper raceways, where the water is purer and has more oxygen. Gradually they are moved through the system to the lower raceways outside, and eventually to lakes and streams.

The Paint Bank hatchery stocks fish every day from mid-March through mid-June, but some hatcheries continue stocking through Labor Day in the fee fishing areas.

"The trout production business is like growing corn or anything else," Stephens said. "You have good years and you have bad years. You might have 10 good years in a row; you might have 10 bad years in a row. That's why normally you'll take a certain amount of eggs that you really don't need. Because at the time you take that egg there's no way of knowing if it's ever going to hatch and be a fish. Then, if you have a good year, you have some extra fingerlings, and there is always a lake or stream that can use the fish."

The Paint Bank hatchery uses an average of three million gallons of

Paint Bank ~~National~~ Fish Hatchery

by Martha Sutton
photos by Cindie Brunner



A large modern facility, Paint Bank was turned over to the Commonwealth of Virginia for management in 1983.

**This former federal hatchery
is now managed by the state and is part
of a system that produces a million trout each year.**

mountain spring water a day and 200,000 pounds of pellet food a year. The amount of food used on a particular day is partially determined by the amount and temperature of the water. When the water level is high, more food is put in the raceways. "Although the temperature of the water does not fluctuate much," Stephens said, "if it gets into the 60's, the amount of food is decreased."

There are 16 raceways inside the building and 40 outside. Stephens records the number, type, and weight of fish that are kept in each raceway

on a colorful chalkboard chart in his office. The small raceways can hold about 2,000 pounds of fish while the larger ones can hold up to 4,500 pounds.

It costs 33 cents in food cost alone to raise each pound of trout at the hatchery. Total cost per pound is about three times this figure. The cost of trout production is expected to be covered by trout fishing license fees, but with the added burden of operating the two federal hatcheries and stocking national forest streams this is no longer the case. The Commission

has found it necessary to seek an increase in the cost of a trout fishing license in the January session of the legislature. Virginia currently has about 120,000 licensed trout fishermen who pay for the program and about 40,000 trout fishermen not required to have a license (under 16 and over 65).

The operation of the two additional hatcheries has caused the Commission some financial and manpower problems, but the transition has gone surprisingly well. □



Trout are fed by hand in the raceways.



The raceways at Paint Bank hold thousands of trout.



Trays of tiny trout inside the hatchery.



Outside, the trout are much larger.

“Hound Talk”



**Virginia is known
throughout the world for
fox hunting and 20 of the country's
133 hunts are held in Virginia.**

**by Don Harrison
photos by John Warden**

Good stories abound about foxes and the hounds and horses and people that chase them. They're stories that best are told in the company of old friends. It helps if there's a crackling fire, plenty of Virginia ham and cider, and fresh snow. Some of the stories are true. They're called legends. Some of the stories are, well, a bit on the stretched side. They're called legends, too.

Much of what makes the stories good is the renowned antics and craftiness of the fox. There are tales of foxes which climbed trees to escape pursuit. Sooner or later, somebody will tell of a clever fox which led the hounds for nearly 10 miles, then ran through a cattle herd to try to disguise his trail, crawled through a culvert, picked his way down a ditch, crossed a stream four times, and then took off down a country road.

There's also a legendary fox, reputed to be larger than most, who side-tracked a chase through Middleburg by dashing through an open door in the Red Fox Tavern. The creature is said to have left through a tap room door, also left ajar. Accounts of the evasion, however, don't make clear whether the hounds also went through the tavern. Either way, it must have been a sight for the patrons.

The nice thing about these stories is that any member of either of Virginia's two fox hunting communities may tell them. The fox hunting world is divided into those who chase on horses and those who don't. The common denominator, for both sides, are the fox, the hounds that chase them, and a hunting license.

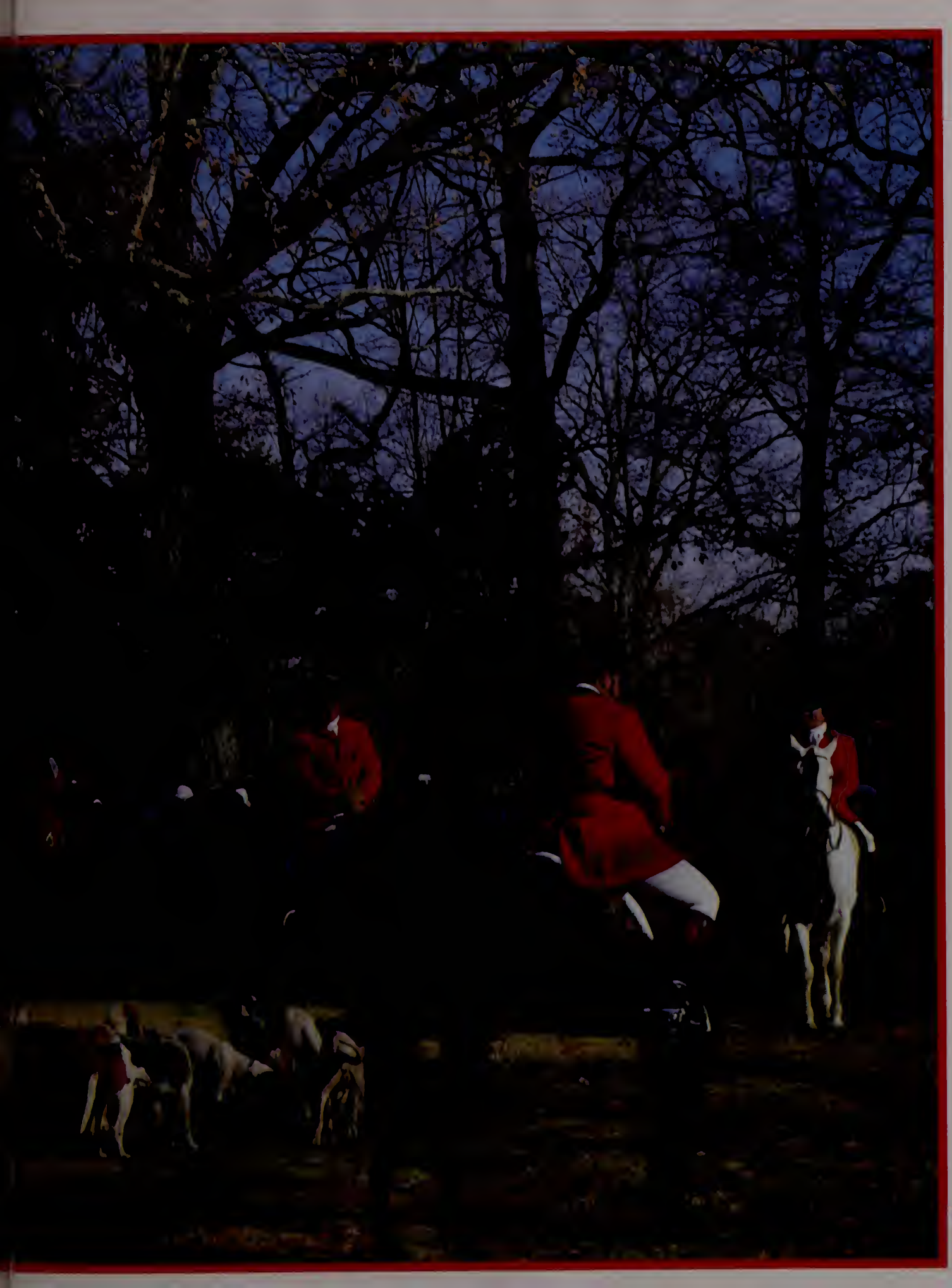
Virginia is known throughout the world as fox hunting country. Parts of the state, extending roughly from Goochland County near Richmond,

Colorful costumes and jumping horses are a common sight in Virginia's hunt country.









west to Charlottesville, and then north into Orange, Fauquier, Rappahannock and Loudoun counties, seem tailor-made for riding to the hounds. The rolling foothills of the Blue Ridge are a backdrop for pastures and woodlands punctuated by rail fences, hedgerows, creeks, and stone walls.

Two or three times each week, from October through March, members of Virginia's recognized hunts gather for a morning or entire day of fox hunting. Baileys' Hunting Directory, the "bible" of such matters, lists 399 recognized hunts in the world, with 20 of this country's 133 in Virginia. One-fourth of Virginia's hunts are concentrated in or near Middleburg.

Colonel Oliver J. Sands, Jr., a Richmond-area resident and veteran of several decades of fox hunting, said the sport is easy to explain. "Hunting with hounds is really all it is." Man has hunted with hounds in one form or another for centuries. Fox hunting, as we know it today, became popular in Britain during the 17th century, Sands said. "They hunted stag, rabbit, boar before that. Then they found it was more fun to chase a fox than a wild boar."

The sport has its critics. They say it is cruel to run a fox and kill it. Most game experts say, however, more foxes are killed by cars than by

Soon these hounds will be on the trail, providing a song that has captivated hunters for centuries.



**“And
when its
over,
there will be
the stories—
old ones, but
new ones, too
about
the foxes,
the hounds,
the horse.”**

hunting. In addition, the sport is in the chase, not a kill. Many times the hunters never see their quarry, and the dogs are several hundred yards behind the fox. Often the fox eludes everybody.

Robin Traywick, a Goochland County writer and longtime fox hunter, said, “I’ve been a member of the Deep Run Hunt for eight years. In hunting two or three times a week, several months of the year, the hunt has killed maybe five foxes in that time.”

Her view, shared by many others in the sport, is that fox hunting is like any other sport. “Yes, you have to have a horse, and that’s expensive. But so is deep sea fishing,” she said.

The red fox was foreign to the Atlantic Coast until about 1730, when several were imported from Europe to the Maryland side of the Chesapeake Bay area. Historic accounts suggest that about 50 years later, red foxes crossed the Bay during a severe freeze and established residence throughout eastern Virginia.

The gray fox is the other type found in the state. Both types are hunted, but the red fox is the traditional object of pursuit.

“The red fox is the better of the two. Grays run in a circle. A red fox will run point to point,” said Sands. Major Gerald Simmons of the Commission of Game and Inland Fisheries said there are other differences. “A gray is slower than a red fox. A gray will head for a thicket and crawl around in there. A red will just flat out run. A gray will go up a tree, but a red fox almost always goes to ground.”

Red foxes are about three feet long, about 15 inches tall at the shoulder, and usually weigh 10 to 15 pounds. Gray foxes are shorter and weigh less. A red fox’s coat is much finer than a gray’s. The diet for either is mice, small snakes, insects, berries, fruits, dead animals, birds, and at times, chickens. The fox’s inclination to clean up a carcass makes him a friend of man instead of a pest.

Riding to the hounds is a colorful sport, closely associated with this nation’s history and affluent society. The customs and traditions run deep, with riders in their coats of red or black or pink, the packs of 40 to 60 hounds, the huntsmen, whippers-in, the Master of Fox Hounds, the repertoire of calls made on short copper and nickle horns.

The non-mounted version of fox hunting is less formal than the horseback version, but no less a sporting venture. Pickup trucks and bluejeans, baseball caps and goosedown jackets are the dress for dismounted fox hunting.

At the heart of both styles, however, are the dogs. For mounted hunting, they are American or English foxhounds, or crossbred. American hounds have the nose and voice, while English hounds are built sturdier. In the other style of fox hunting, the dogs have breed names such as Walker, Trigg and July. “It takes a more powerful dog to run a red fox. I’ve seen a red fox outrun a deer,” Simmons said.

Some dogs have fancy names. Most don’t: Easy, Bull, Melodie, Daybreak, Fagin, Trueman, Blue, Butler. All of them, however, do what reaches down through their owners’ ears and sets off a vibration in their hearts. Out of sight, they get a line on a fox and bring to full cry their special canine song that filters through the early morning and reverberates off the land. People speak words. Hunting hounds speak hound-talk.

“It’s a beautiful thing, the chase, and hearing those dogs,” said Simmons.

And when it’s over, there will be stories—old ones, but new ones, too, about the foxes, the hounds, the horse.

There may even be embellishments on a story that comes out of Rapahannock County. It seems fox hunting in that part of Virginia is governed by a contract. At least, that’s what James J. Kilpatrick says in his book, *The Foxes Union*. The contract is between “Local 211, Foxes Union of America, on the one hand, and the Hounds Association of Northern Virginia on the other.” The hounds’ group is known as HANOVA.

The contract expires on September 30 each year, but it has been renewed annually with only one strike of 11 days back in 1963. Kilpatrick tells it this way: “Two high-spirited members of the Hunt by sheer inadvertence cornered a young fox, Red Mackenzie by name. . .” □

Everything tastes better cooked in camp over an open fire, though I'm not sure if this is due to the atmosphere of your "dining room" or the additional seasoning of wood ashes, a little sand or dirt, and any members of the insect world that fly too low over the pot. The farther you go from your home kitchen, however, the more difficult it gets to prepare anything more ambitious than broiled and boiled meat and potatoes and pan-fried-everything-else. A common solution is to load up on dried and freeze-dried boil-and-eat items. While this is satisfactory for some, those who want to avoid the high cost of these foods and who enjoy doing a little cooking in camp can still eat well—and relatively hassle-free—by packing a few spices and condiments and a little knowledge with the vittles on your next outing.

The basis of good eating is variety. Every civilization in history has spent a great deal of its time and energy looking for different ways of preparing whatever nature provided them in the way of nourishment. Long before the arrival of Europeans, North American natives were using chili peppers, maple sugar, wild mint, salt, and juniper and other berries to enhance what otherwise would have been a bland and monotonous diet.

Here are some ideas for improving the flavor of your open fire fare.

Whether the meat and fish for your camp fare is provided by the grocery store or a nearby lake or forest, the following spices and condiments will provide enough variety in the menu to insure that you'll *never* want to go home.

My spice box includes the following:

- salt
- pepper
- bay leaf
- garlic powder
- basil
- oregano
- chili powder
- chicken and beef bouillon cubes
- Worcestershire sauce
- a plastic container (pint) of white wine and one of red
- a pint of lemon juice
- sugar
- parsley flakes
- a box of raisins and one of dried apples
- olive oil



Spice Up Your Camp Cooking

by Fred Bouwman
illustrations by Cindie Brunner

I know that looks like a lot, and you're thinking that next I'll have you throwing your stove and refrigerator in the back of the pickup on top of the tents and sleeping bags. It's not that bad. All the items listed above, after I repackaged them in 35mm film canisters and purloined plastic containers from the kitchen, take up only half a shelf in the cabinet in which I keep my outdoor chow and stove. The only things that take up any substantial spaces are the wines, lemon juice, and oil.

So we've dragged all this junk along with us—now what do we do with it? I'm not going to lay out a mess of recipes here; let's look at some *ideas* instead.

I haven't met an outdoorsman yet that can't throw together a respectable pot of chili. Any kind of meat you come across will work just fine, and you have an opportunity to utilize old, tough, bloodshot, or other meats not suitable for the broiler grate. Some chili powder, garlic, pepper, a beef bouillon cube for stock, and a bay leaf or two in with the browned meat and a can of beans and you're all set. Make a lot—everytime you heat it up, it tastes better.

Freshly caught fish rolled in cornmeal and fried in butter over a wood fire is unmatched as camp fare. . .until you eat it four times in a row. Go to your spice shelf; the camp chef can select the white wine, mix a few tablespoons with butter and lemon juice, and brush the day's catch inside and out before consigning it to the frying pan. Or, to get away from frying entirely, anoint the cavity of the fish with white wine, lemon juice and butter, sprinkle with oregano, parsley, and garlic, salt lightly, and bake in foil or a Dutch oven.

Birds can be treated in a similar manner. Forego the lemon juice and get out the raisins and apples. Mix with some chopped onion, salt, pepper, and stuff the bird. Baste with white wine, butter, and parsley as it

bakes. While I prefer the foil for fish, the Dutch oven does better justice to the day's bag of ducks or grouse. Coot and other fish-eating ducks, if they are carefully skinned, are very good this way.

After a pot of chili, my favorite throw-together meal in a camp is some kind of a game stew. Rabbits, squirrel, any furbearer, venison, or whatever else is pulled out of the game pouch is a fine reason to get out the stew pot. Two ways of doing this are Brunswick and Italian.

Start either one by browning your meat in the same pot that the stew will cook in (remember, we're keeping this simple), and for Brunswick add parsley, a few bay leaves, red or white wine, pepper, and a couple beef or chicken bouillon cubes dissolved in water. These last add a lot to the flavor of the dish, but are quite salty, so wait on the salt shaker until you sit down to eat. Italian is substituting some canned tomatoes, oregano, basil, garlic powder, and a little sugar for the Brunswick ingredients.

*"Traditionally
the lemon juice
or white wine
is used for
fish and birds..."*



The flavor of many game meats can be enhanced with the use of a good marinade. Many game marinade recipes, however, call for vast quantities of vinegar which obliterates not only the taste of the meat but that of any spices or other ingredients present. With the red and white wine, lemon juice, Worcestershire and olive oil in your outdoor spice kit, you can put together a fine marinade that will add to the quality of whatever is in the pot and not cover it up with the bitter taste of vinegar.

Red or white wine and lemon juice are mixed with the oil at a ratio of about one part oil to three parts lemon or wine. Traditionally the lemon juice or white wine is used for fish and birds, and the red wine for small game or deer, but don't be afraid to experiment. If you believed

everything you read in a cookbook, you'd be dousing your dinner in vinegar. To your oil and wine or lemon mixture add some spices from your supply. I like red wine, parsley, garlic, bay leaf, some black pepper, a splash of Worcestershire and a crushed beef bouillon cube in my venison marinade. For birds and small game, white wine or lemon, parsley, and the black pepper are enough. The amount of time to leave meat in a marinade depends on the meat and the condition it's in, the strength of the marinade mixture, and, most importantly, your own personal taste. The longer you leave it in, the more strongly it will flavor the meat. The overnight treatment used on an old buck is usually uncalled for in the case of venison from a young doe, or with birds.

Any vegetables you bring along can also benefit from some treatment from your spice box. The old, familiar, boiled potatoes are uplifted with the addition of some basil and parsley, or try fresh carrots by boiling and adding lemon juice, salt and pepper, parsley, sugar, and butter. If you're schooled and confident in your ability to select edible wild mushrooms, boil olive oil, lemon juice, bay leaf, garlic, parsley, and some pepper, let cool, and soak your fungus in the mixture for an hour. You'll pay big bucks to eat that in a fine restaurant, and, like the other items discussed, you can prepare, cook, and serve it out of the same container. You didn't come out here to do dishes. (A word of caution: when it comes to wild mushrooms, if there is the slightest doubt in your mind about the variety you're dealing with *do not* eat them.)

How do you know how much of what to use in a recipe? Well, while bringing along the measuring spoons and cup and the *New York Times Cookbook* would solve that problem, it would also drive the apprentice camp chef back to the frying pan and end-



"...try fresh carrots by boiling and adding lemon juice, salt and pepper, parsley, sugar, and butter."

less boxes of macaroni and cheese. Good camp food is painless and takes very little time to throw together. Whatever your reason for living in a tent for a period of time, I'm willing to bet that it's *not* for the opportunity to measure, stir, and otherwise fool around trying to come up with something to eat.

I do, however, carry a couple of pages of recipes of the type outlined above, tucked in my spice box. Thinking about what's for dinner is just too much of a mental strain when the walleyes are running and the ducks flying, so I have them written down and encased in plastic because it *always* rains when I camp.

Your spice box will enable you to take advantage of any "animals of opportunity" that you may happen across. A squirrel or rabbit or two taken at the tag end of an unsuccessful deer drive or a catfish or bluefish that make up your total catch for the day can be the makings of a memorable meal. A raccoon, road killed by a

member of my deer hunting party found its way into the stew pot a couple of seasons ago, and is still talked about around the fire as one of the finer meals we enjoyed that year.

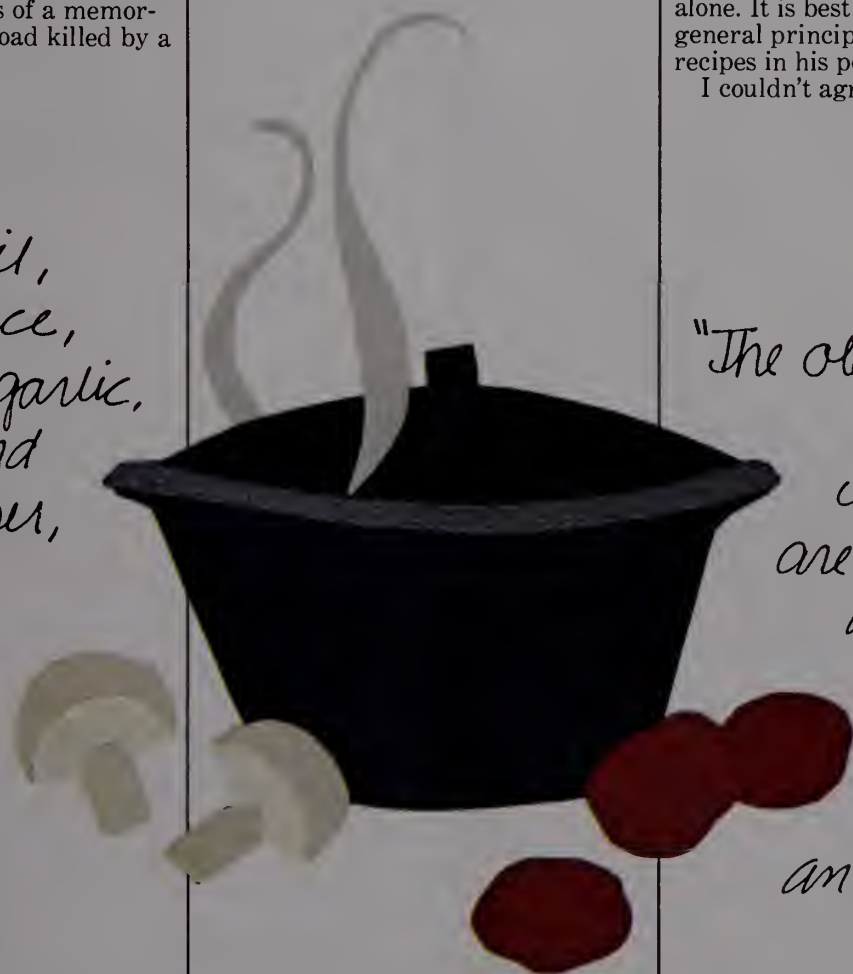
Those sportsmen owning controlling interest in an oil company need not worry too much about keeping the cost of their recreation within any limits, but if you're like me you have to take it into consideration. There's nothing cheaper than fresh, whole, unprocessed foods. And nothing

healthier. Paying someone else to do some of the cooking for you means higher priced and lower quality eating. Period. Dried and boxed food is more expensive, freeze-dried is out of sight, and the foil pouched product often costs five or six times more than its fresh equivalent. You can't get away without using some freeze-dried items on an extended backpacking or canoe trip, but the more real food you eat, the more your wallet and your body will appreciate it. Getting comfortable with camp cooking won't come overnight, but neither is it a major project. You learn with time and experience, as with most anything else, and before you know it you'll be adapting recipes and dishes from home and adding and deleting items from your spice box as your personal tastes dictate.

Horace Kephart, in the introduction to his 1924 classic *Camp Cookery*, stated, "A camper cannot go by recipe alone. It is best for him to carry sound general principles in his head, and recipes in his pocket."

I couldn't agree more. □

"boil olive oil,
lemon juice,
bay leaf, garlic,
parsley and
some pepper,
let cool
and soak
your
fungus
for an
hour."

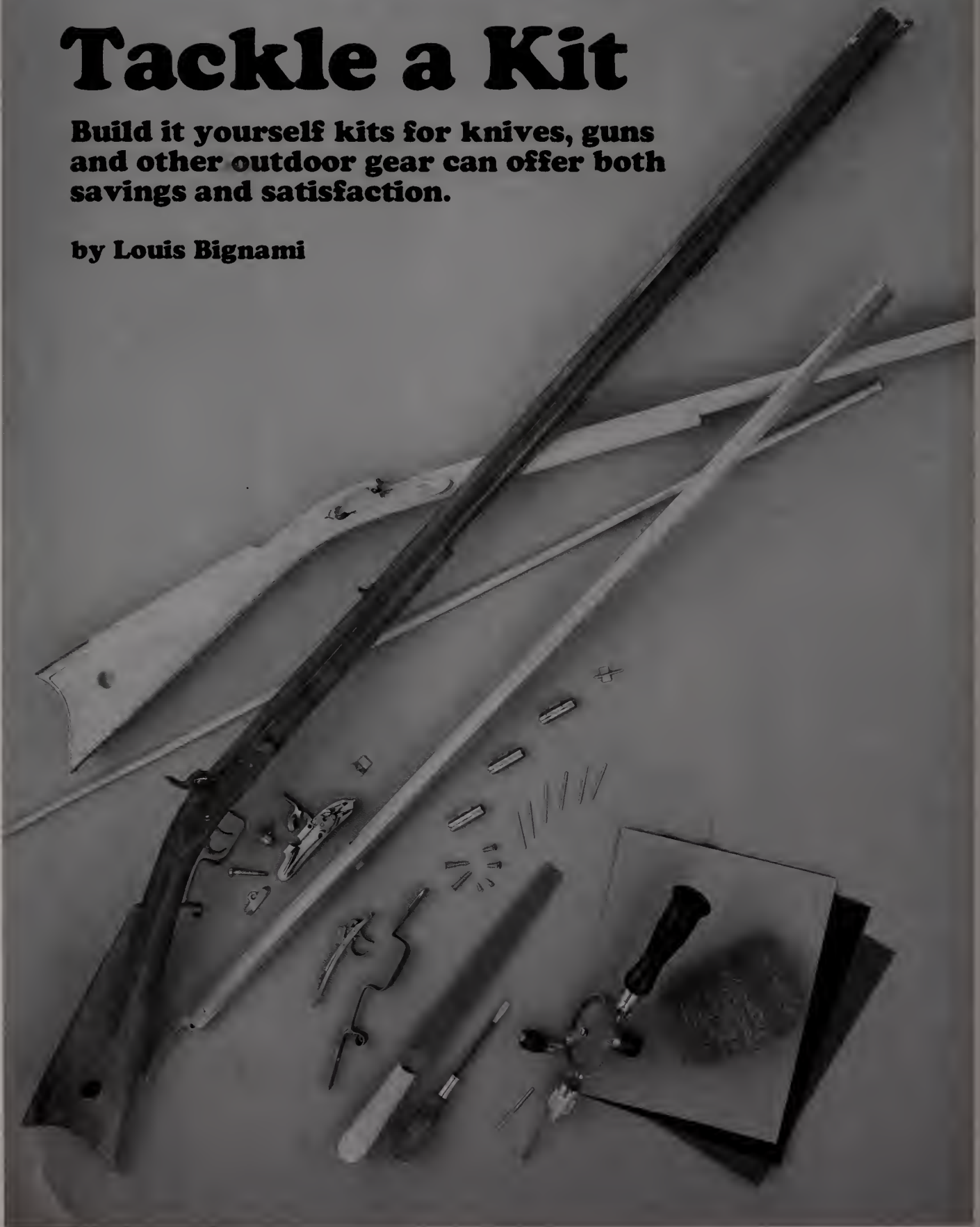


"The old, familiar,
boiled,
potatoes
are uplifted
with the
addition
of some
basil
and parsley."

Tackle a Kit

Build it yourself kits for knives, guns and other outdoor gear can offer both savings and satisfaction.

by Louis Bignami



Dixie Gun Works, Inc.

Most hunters buy their first kit to save 30 to 40 percent. Experienced kit builders realize kits offer the chance to add custom functional and design touches and assure custom fit as well as the sense of control you enjoy when you complete a project. I know I started as a teenager with a \$40 canvas and wood kayak because it cost less and instructions let me do a job I couldn't have planned and executed on my own. In years since, I've been "kits" editor for three magazines and built vehicles, wood splitters, boats, black powder guns, furniture, solar hot water heaters, knives and much else. So I know that, given a considered approach, you can build just about any kit on the market.

Survey the kit field first to order catalogs. Make *certain* catalogs offer no questions, money back guarantees.

Then buy a basic kit to hone skills needed for more complex kits such as tents, off-road vehicles or boats.

When your kit arrives, check its contents so missing parts don't turn up in mid-project and you must wait for replacements. Then organize your work areas and tools. Do work in a good light! This is especially important when sewing dark fabrics. "Picky" procedures seem most easily done in daylight. Simple tools listed in the kit directions get the job done; optional tools often make it easier, and taking your time should improve your result. Fortunately, kit instructions divide assembly into sections that break the job down into comfortable work sessions. With these points in mind, let's look at hunter's kits.



Kentucky Rifle Kit



illustrations courtesy of Connecticut Valley Arms, Inc.

Black Powder Kits

Hunter's *must* check black powder kit specifications against the varying primitive hunt requirements of the states they hunt. Some states limit these hunts to flintlocks that work well in dry weather. Others allow more reliable percussion cap guns less affected by wet weather and quicker to reload in the field. Good hunters' choices include Kentucky "long" and the shorter Rocky Mountain Hawkens rifles as well as single and double barrel black powder shotguns.

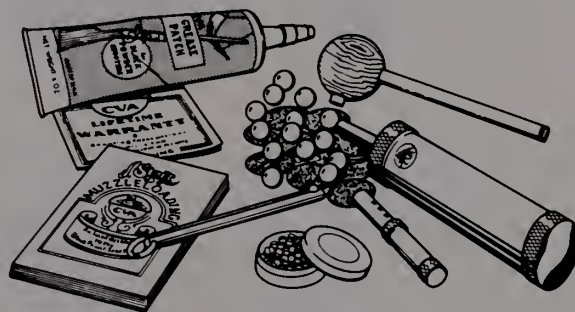
Assembly isn't difficult. Ten hours sanding the stock, ten hours filing and finishing metal parts and five hours for stock finish and browning offers a respectable result, but you could assemble a "working" weapon overnight.

Black Powder users also need bullet molds—Lyman and others make excellent mold kits—"possibles" bags to carry gear and powder horn kits available from specialty houses.

Boats

Kit canoes offer good savings. Fiberglass takes 10 to 30 hours; wood strip several hundred hours. If you prefer wood, but haven't time to build a wood strip boat, Country Way's "stitch and glue" canoe pram, skiff, johnboats and canoes, as well as varied fiberglass kits from other manufacturers, fill most needs. *Carefully* compare catalogs; some kits include finish material items others omit.

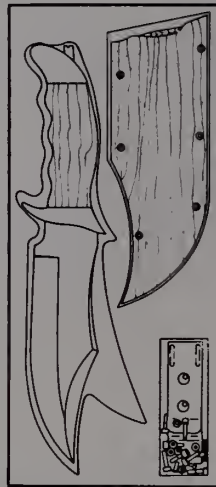
Deluxe Shooters Kit



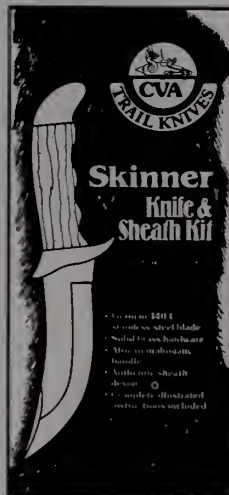
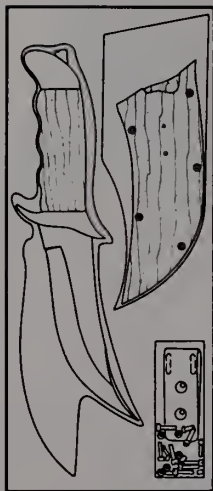
Motorized Kits

Two, three and four wheel off-road vehicles are available. I've built an easy to assemble four wheel Heald Hauler with a 4' by 4' mini dumptruck bed that's powered by a 16 horsepower engine and find this lightweight vehicle takes me, and a buddy, into spots difficult to reach with most 4 wheel drive vehicles. Off-road motorcycle, jeep and dune buggy kits take 50 to 400 hours or more and can require special techniques and/or tools, such as welding; you might want to contract out to a local mechanic.

Trapper Knife



Skinner Knife



Odds and Ends

The Burro Trailer kit, a compact mini travel trailer which comes with its shell preassembled and tows behind the smallest car, suits traveling hunters who find camper and truck shell kits too. In more exotic transport kits for a tracked mini bulldozer, aircraft, gyrocopter, and hovercraft let you reach really tough to get spots.

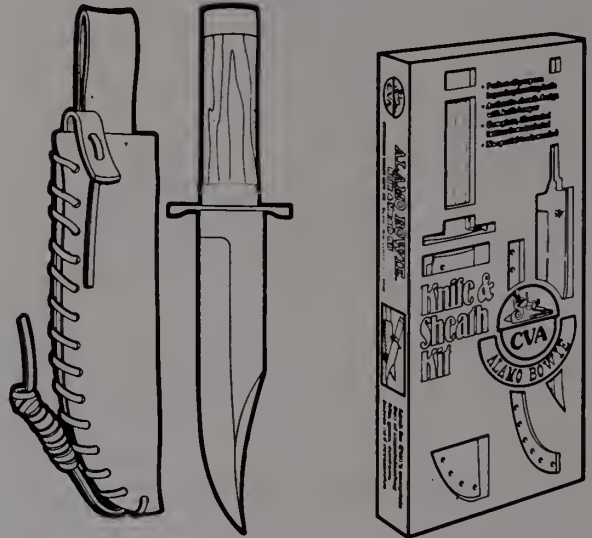
Any duck hunter can use more decoys, and field as well as "display" decoy kits come in wood and plastic from a number of sources. Duck, turkey and other game calls come in kits too, and after a successful hunt, tanning and taxidermy kits—one company offers full-size body forms for African lions—might suit your needs.

CB radios for vehicle, hand or base station use, depth finders, and much else suited to hunters' use is available as kits from Heath and other manufacturers. Electronic kits aren't hard to assemble with good eyesight, minimal soldering skills and close attention to directions. Cabin furniture, tree stands, and more can be had too.

Knife Making

Knife kits range in size from Bowie knives with 12" blades down to "magic finger" fish or bird cleaning knives with 2½" blades in more steel types, handle materials, and blade shapes than one can count. Handle finishing, blade polishing and grip attachment using adhesives and/or rivets does the job in one or two evenings. Manufacturer's blade shape and steel recommendations seem reliable.

Bowie Knife



illustrations courtesy of Connecticut Valley Arms, Inc.

Clothing & Sewn Kits

Parka, coat, pile and fill vest, jacket, luggage, pack, tent and sleeping bag kits fill catalogs. Odds and ends such as gaiters, mittens, booties and much else come in kits too. Start sweaters or vests in easy to sew fiberpile or fill that teach basic skills and sew up in one evening. Altra offers a vest with removable zippered sleeves. Sundown has low prices. Frostline sells the most designs, and you can see completed kits at their retail outlets. Donner Designs has Western wear. Frame, soft and "convertible" packs, rucksacks, camera bags and soft luggage take a bit more pains, but sleeping bags and tent kits aren't recommended as initial projects because of complex design and long seams.

Build It, Fix It

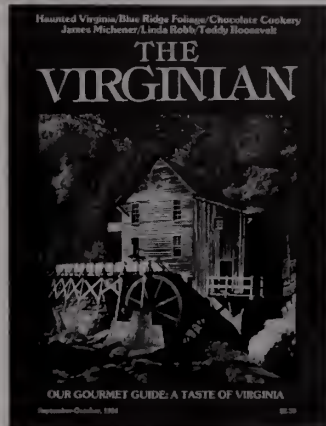
It's easy to fix kits you build to save on upkeep and repairs. Just use the trouble shooting sections of assembly instructions. However, most kits need less upkeep than store-bought gear because factory finishing can't hide shoddy materials; with low inventory, shipping and labor costs and profits that aren't shared with distributors or retailers, materials can be better.

So, all you need to do now is write for catalogs, compare kit features and invest the enjoyable time it takes to complete that all important first kit. Then you'll find that your only regrets are, first, that you didn't discover the joys of hunter's "kit fits" sooner, and, second, that you don't have enough time to "kit" everything you want. □

December Journal

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THE VIRGINIAN

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Field Notes

Winter Hazards—How to Avoid Them

Virginia's winters often bring biting cold and rainy, blustery days. Most "normal" people seek the comfort of a den with a crackling fire or some other warm and cozy hiding place. Still, some folks dress for the occasion and head out across the bay, lakes and rivers in hopes of bagging waterfowl or catching fish. These people actually enjoy what nature dishes out on these tough, raw days. They also face hazards associated with cold, unpredictable weather and the lack of fellow boaters to render assistance in times of distress.

The careless or unfortunate will find themselves in a life-threatening

situation. Survival often depends upon two elements, preparation and good luck. Luck is something we have no control over, so the key is preparation. Precautionary measures should begin with an understanding of what dangers you face. Drowning and hypothermia are certainly the most formidable. Make all preparations with these hazards in mind.

Prepare for the worst. A boating accident such as a collision, a fire, capsizing or swamping could be disastrous. To avoid colliding with another boat or other obstacle, always keep a very good lookout, research and commit to memory hazards and obstructions shown on maps and charts, and finally, reduce your speed, especially at night.

Fire prevention includes proper ventilation, and engine, electrical and fuel system maintainance. Proper storage of combustible materials and ready accessibility of a fire extinguisher are also important precautions. Several sizes of fire extinguishers are available—do not be afraid to get one that exceed minimum requirements.

To avoid capsizing or swamping, you should consider the size of your boat and its stability in relation to the size of the body of water you will be using. Consider weather reports and learn nature's signals for oncoming storms. If the weather forecast predicts high winds or unstable conditions, you should postpone your excursion.

You should do everything in your power to avoid being forced into the water at this time of year. However, since "the best laid schemes o' mice and men are often for naught," prepare for this dismal possibility.

A personal flotation device (PFD) in good condition will prevent your drowning but will not protect you from the cold. There are flotation suits and jackets that provide this type of protection, but they are expensive. In making a decision about the type of equipment necessary, consider where you are going. An upper James River duck hunter may not need a flotation suit in order to survive, but he had better have a dry bag with clothes, fire-making supplies and some form of shelter to protect him from the rain. One going to the Chesapeake Bay for recreation should invest in the flotation coat or suit. Take along companions in another boat—you will have your rescuers at hand.

If you are involved in an accident or have an engine failure, your chances of survival can also be enhanced by something that you should have left behind. Make a float or trip plan describing your destination, expected time of return, etc. and leave it with someone who is responsible and will report your absence. The report should be made to your local Virginia game warden, through the Richmond office at 257-1000 or through your local sheriff's office. □

-December Journal-

Books

We get books! Here's a look at the best of our recent acquisitions: *White-Tailed Deer: Ecology and Management*, Stackpole Books, Harrisburg, Pennsylvania 17105. The Wildlife Management Institute's new book is a big one, 896 pages which have been edited by Lowell K. Halls. The product of nine years labor and including the work of 72 authors and numerous other contributors, the book details virtually all aspects of whitetail history, behavior, habitat and management.

The wildlife biologists here at the Game Commission who have reviewed this work have been quite enthusiastic. They believe that it is a very good, useful publication.

Although it was written primarily for the wildlife professional, I believe that sportsmen in general will find the book interesting as well as informative.

You just caught a fish and it's a big one. Wow! It is big. Could it be a world record? Boy, have we got the book for you. *World Record Game Fishes*, published by the International Game Fish Association lists all current world record fish in three categories; all-tackle, line class and tippet class.

Records, yes, 101 pages of them. Surprisingly, to me at least, some "vacant." That is, no one has taken that particular fish on some weights of line—should be a chance to get your name in the record book. But this little tome has more. Descriptions of 74 freshwater and 77 saltwater species, their habitat, major identification characteristics, food, and sporting value are included. The price is \$7.95 from the International Game Fish Association.

I enjoyed Kit and George Harrison's new bird book, it was a few

hours reading about good friends. *America's Favorite Backyard Birds* looks, in detail, at ten of the most common songbirds, the ones that you are most likely to find at your feeder. Since the book offers just ten birds, the author can give you considerably more information than you will find in the ordinary field guide. If you are at all interested in learning more about the birds that you see every day at your feeding station, this is a book for you.

George Harrison's father, Hal, has been a lot more specific. His new bird book is about a single family of birds, the wood warblers. Gathering the results of more than 30 years of studying these often elusive birds, Mr. Harrison, with help from his wife Mada, presents a definitive work on wood warblers that is certainly going to be a valuable part of our library here at the Game Commission. *Wood Warblers World* is published by Simon and Schuster and like the other books mentioned here, is available from your local bookseller.

There's one more book—and this one we have yet to see. However, we're going to recommend it because the illustrations are by North Carolina artist Duane Raver. We have used Duane's work for many years at the Game Commission and consider him the best in his field in this part of the country. The book, *Fisherman's Guide to Fishes of the Southeastern United States*, is written by Charles S. Manooch, III. It is published by the North Carolina Museum of Natural History in collaboration with the Sport Fishing Institute, the International Game Fish Association, the North Carolina Wildlife Federation and the National Wildlife Federation. Copies will be \$24.95. □

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Non-Game Update

Virginians Care

It says "Virginians Care" on the new Non-Game logo, and it is obvious that they do. This year alone, \$441,000 have been contributed to the program for the benefit of the state's non-game and endangered species.

While most Virginians find out about the Non-Game Tax Check-off Program on lines 20A and 10A of the their state tax form, there are a number of plans afoot to make people aware of this valuable wildlife effort.

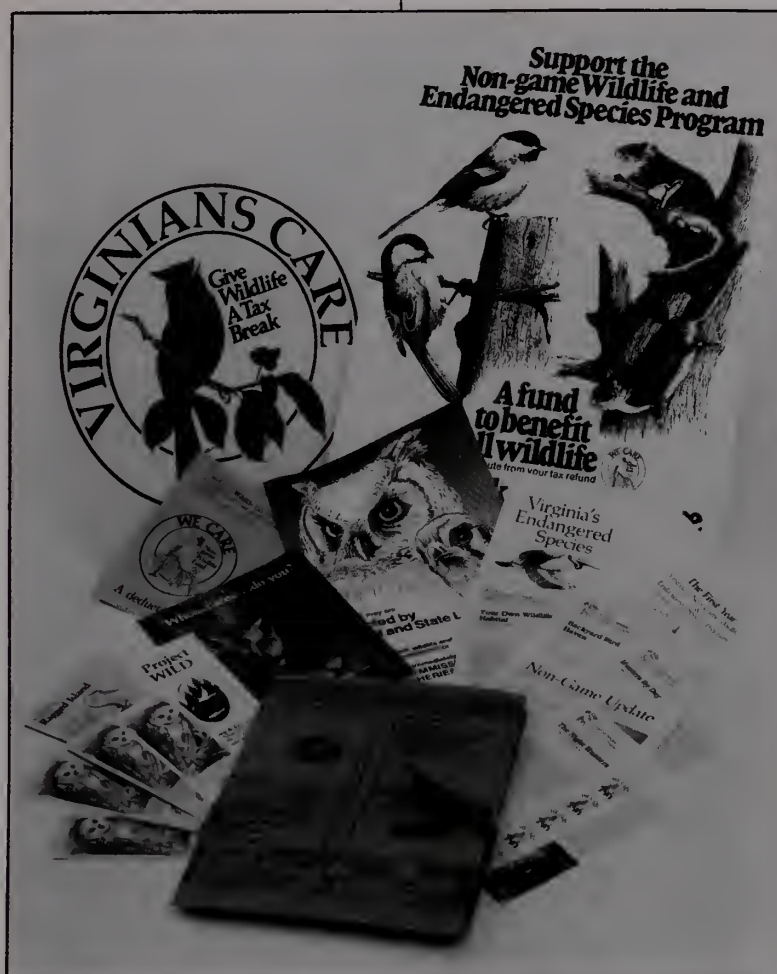
You will see our new poster with chickadees and a flying squirrel at Southern States stores, marinas, sporting goods dealers and at your tax preparers office.

"Flying Our Waterways" is the title of another information poster produced for the Non-Game Program. The poster identifies many of the birds seen around the waters of the Chesapeake Bay and its tributaries. Look for these posters around the Bay and on the James River ferries.

Your public library is helping the Non-Game Program by distributing a portion of over 100,000 Non-Game bookmarks received by libraries throughout the state. The bookmark will feature one of Virginia's most beautiful wading birds, the great egret. The reverse side of the bookmark has information on contributing to the Non-Game Program.

Private industry is also helping to get the message about the program to the public. Ukrop's Super Markets, a large Richmond area grocery chain, has placed a non-game message on a book cover printed on their grocery bags. The book cover is printed on the bag at the beginning of the school year in September. Ukrops' 1983 book cover pictured the peregrine falcon with a city skyline behind it. This year's cover shows the loggerhead sea turtle.

Shenandoah's Pride Dairy featured eight of Virginia's endangered species on their half pint school milk cartons.



Posters, bookmarks, grocery bags, and booklets are just a few of the efforts being made to introduce the public to the Non-Game Program.

Students will learn about the bald eagle, red cockaded woodpecker, hawksbill sea turtle, Cumberland monkey face pearly mussel, eastern cougar, big-eared bat, and Delmarva fox squirrel.

Information about each of the 23 endangered species found in the state can be found in the booklet Virginia's Endangered Species. Richmond artist, Dick Bernard donated the artwork for this publication. Dick Bernard's art also appears on the Non-Game posters, and the milk cartons. The endangered species booklet may be obtained from the Game Commission, 4010 West Broad Street, Richmond, Virginia 23230-1104 at no cost.

These are just a few of the efforts being made to introduce the public to the Non-Game Program. Next year look for our Public Service Announcements on television and radio. Non-Game displays will be set at conferences, as well as county and local fairs. And, if you want to get out and see wildlife first hand visit our watchable wildlife areas and exhibits in state and local parks.

Virginian's Care about Non-Game Wildlife and Endangered Species. For more information about the program write: Non-Game Wildlife, Virginia Game Commission, P.O. Box 11104, Richmond 23230-1104, or see your state income tax form 760 or 760S.—Susan Gilley

—December Journal—



Turkeys Now Eligible for Citations

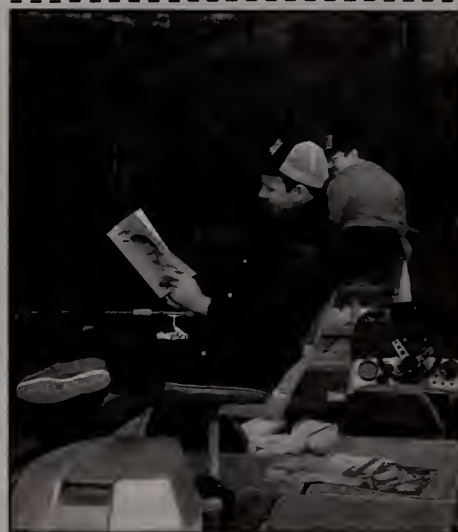
Hunters bagging turkeys in the 1984-85 fall and spring seasons should keep in mind that they could be eligible for a state citation at the Eastern or Western Big Game Trophy Show in the fall of 1985. To qualify, hunters should have their turkey's weight recorded on an official weight verification form at the checking station where the bird is checked. To enter a bird they must submit this weight verification plus the beard and legs with spurs attached from the bird. Hunters who have their birds or trophy parts

mounted may submit them for measurement in that form.

The official score is determined by adding the weight in pounds to the nearest 1/8 pound, the beard length to the nearest 1/8 inch multiplied by two, and the combined spur length to the nearest 1/8 inch multiplied by 10. Birds must score a minimum of 50 points by the above method to be eligible for a state citation. Turkeys will be officially measured for citation at the appropriate Eastern or Western Regional Trophy Contest. □

About the Authors

Harry Murray of Edinburg is a frequent contributor to *Virginia Wildlife* as well as the Commission's Outdoor Report. Harry is a fly fishing instructor and tackle shop proprietor. Don Shumaker is a well known trapper and has been associated with publications in that field. He is currently the executive director of Operation RESPECT. Martha Sutton is a student at the University of Richmond, who has been part of an internship program with *Virginia Wildlife*. Don Harrison currently writes about politics for the Newport News *Daily Press* and other subjects, like fox hunting, for a variety of magazines. Fred Bouwman of Oshkosh, Wisconsin is presently working on an outdoor cookbook for campers. Louis Bignami is a writer from California.



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JOHN W. TAYLOR

Bird of the Month

The Northern Harrier

The harriers are a cosmopolitan group of raptors, of medium size, long of wing and tail. Open country birds, they hunt by patrolling close to the ground in search of small mammals, birds and reptiles. World wide, there are ten species, but only one, the northern harrier, occurs in North America.

(Until quite recently the species was known here as the marsh hawk, but, since the latest revision of the North American check-list, has been given the official name, northern harrier.)

Harriers, unlike most other hawks, show a decided sexual difference in plumage. The adult male northern harrier is predominantly grayish-blue above, with brownish cast. The head and chest are the same color; the belly being lighter, almost white, and spotted with cinnamon brown. Females are much darker. Grayish-brown above, they have dark streaks about the head and neck. The light underparts are heavily streaked with buff and dark brown. In both sexes, the tail is barred and the rump is white, a conspicuous field mark. Young males are quite dark, too, and resemble the female. They do not assume adult plumage until the first full molt, the summer after they are born.

It is the slate-blue color of the male which gives this harrier its specific name, *cyaneus*, Latin for "blue." The generic name *Circus* derives from the Greek *kirkos*, a term used by Aristotle to describe a kind of hawk, and referring to the circling manner of flight.

In North America, the harrier nests across the continent, south to lower California, Texas and Virginia. They winter south to Cuba and Central America.

In Virginia, the harrier is at the extremities of its nesting range, so breeding is rare and sporadic. Nests have been found on the Eastern Shore and in Mathews County. Surprisingly, no nest has been found in the mountain counties, though some have been discovered in the Alleghany sections of adjacent Maryland and West Virginia.

Birds breeding on the Eastern Shore choose flat, open tidal marshes, where grasses are woven in sort of a platform. Inland, nests are built near boggy pastureland or meadows—where there is some shrubby cover. Nests here are more substantial, they are constructed of sticks and lined with grasses.

As the nesting season approaches, the male harrier performs striking nuptial flights. The courtship display is a series of dives, made from 60 feet or higher, done in rapid succession. At the top of each swoop is usually a slide-slipping maneuver or rollover, before the wings are closed for the dive. All the while he is calling to his mate below. The female may, at times, join in this sky dive. During this courtship period, the pair may indulge in mutual soaring, mounting to exceptional heights. Often the male dives towards his mate, whereupon she somersaults, presenting her talons to him.

From this union are usually born four to six young. (Clutch size varies; occasionally a single female will lay up to twelve eggs.) The eggs are bluish white when first laid, but pale to a lighter color before hatching. At times they are marked with light blotches of brown.

Incubation, by the female only, does not begin until the third or fourth egg is laid. So, after hatching, there is

great variation between the oldest and youngest chicks. The smallest of the brood may often die because of the aggressive feeding behavior of its larger nest mates. Only about two-thirds of the young hatched ever reach the flying stage.

For the first ten days or so, the female harrier is especially solicitous of her young, spending most of her time at the nest. The male brings her prey but does not remain at the nest. Rather, the food is presented by means of the "food pass," a characteristic of all harriers: the male calls to his mate and, after she leaves the nest to join him, there is a display of aerial maneuvering. He then drops the prey, which is caught in the air by the female and taken to the nest.

The young remain attached to their parents for a brief period, but scatter widely soon after. (Young banded in an Iowa nest were recovered in Ohio and Nebraska.) In the northern parts of their range, harriers begin to drift south in late August, but the bulk of them are not on the move until mid-September. □

by John W. Taylor

